

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3, 17, 19-20, 22, 29-31 and 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,599,970 to Peterson in view of U.S. Patent No. 5,356,686 to Fujioka et al. and Patent No. 6,475,287 to Clark.

4. Regarding claims 1, 17 and 20: Peterson discloses a mask substantially as claimed in Figures 1 and 2, comprising: a mask body (50) having a pattern opening; and

a frame (12) magnetically bonded to a first surface of the of said mask body; wherein a material evaporated from a deposition source is deposited through said pattern opening of said mask body, said substrate being placed on said first surface of said mask body.

5. However, Peterson fails to suggest said mask body is fixed to said frame in a stretched state and said mask body is adhesively bonded in a location coinciding with a line passing through a thermal expansion center in members of said frame.

6. Fujioka et al. disclose a thin-sheet mask in Figures 3 and 5, comprising: a mask body (2) having a pattern opening; and a frame (1), wherein said mask body is fixed to said frame in a stretched state and said mask body is adhesively bonded (using adhesive 3 at 14) in a location coinciding with a line passing through a thermal expansion center in members (7) of said frame for the purpose of relieving stress in the mask body (abstract).

7. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided said mask body e in Peterson fixed to said frame in a stretched state and said mask body adhesively bonded in a location coinciding with a line passing through a thermal expansion center in members of said frame in order to relieve stress in said mask body as taught by Fujioka et al.

8. Peterson and Fujioka et al. fail to explicitly disclose or teach that the apparatus can also be used in a deposition apparatus wherein a material is evaporated from a deposition source and deposited over a substrate through said opening of said mask body.

9. Clark teaches using a mask and frame apparatus for the purpose of permitting selective deposition from a deposition source situated below the mask, frame and a deposition substrate (abstract).
10. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided the mask and frame apparatus of Peterson and Fujioka in a deposition apparatus for the purpose of selectively depositing onto a deposition substrate as taught by Clark.
11. With respect to claims 3, 19 and 22, said mask body is adhesively bonded to said frame with an adhesive material having heat resistance. All materials have some heat resistance, even if it is low and/or minimal.
12. With respect to the specific material to be deposited (e.g. EL material), the courts have ruled that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969).
13. With respect to claims 29-31, the substrate to be processed is not considered part of the apparatus. The claimed apparatus would be capable of processing many different types of substrates. Therefore, the limitations drawn thereto do not limit the claims. The courts have ruled that the inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)).

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14. With respect to claims 35-37, in Peterson, a second surface of said mask body, which is an opposite surface of said first surface, is faced with a deposition source for processing.

15. With respect to claims 38-40, in Peterson, said substrate is in contact with said first surface of said mask body (see Figure 2).

14. Claims 2, 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson, Fujioka et al. and Clark as applied to claims 1, 3, 17, 19-20, 22, 29-31 and 35-40 above, and further in view of Japanese Patent No. 05341502A to Sekimoto et al.

15. Peterson, Fujioka et al. and Clark disclose the apparatus substantially as claimed and as described above.

16. However, Peterson, Fujioka et al. and Clark fail to teach the frame as having four corners with curvature.

17. Sekimoto et al. teach providing a mask frame comprising four corner with curvature for the purpose of forming a frame capable of uniformly forming an adhesive layer at the inside face without generating a film breaking at the time of sticking the frame film and without damaging the mask at the time of repairing the frame (abstract).

18. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a frame having four corners with curvature in Fujioka et al. and Clark in order to form a frame capable of uniformly forming an adhesive layer at the inside face without generating a film breaking at the

time of sticking the frame film and without damaging the mask at the time of repairing the frame as taught by Sekimoto et al.

19. With respect to the overall shape of the apparatus (i.e. circular or square), Examiner notes that the courts have held that selections of shape are a matter of choice which a person of ordinary skill in the art will find obvious absent persuasive evidence that the particular configuration of the claimed shape was significant. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). It would have been obvious to one of ordinary skill in the art to shape the apparatus in a shape capable of accommodating the substrate to be processed.

Allowable Subject Matter

20. Claims 32-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

21. The following is a statement of reasons for the indication of allowable subject matter: see previous office action.

Response to Arguments

22. Applicant's arguments with respect to the amended claims have been considered but are moot in view of the new ground(s) of rejection. Peterson has been applied to address the newly added subject matter.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **KARLA MOORE** whose telephone number is (571)272-1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

/Karla Moore/

Primary Examiner, Art Unit 1792

27 October 2008